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Remarks:

*Regarding the rejection of claims 1-15, and 18-24 under 35 USC 112:*

The applicants traverse the Examiner's rejection of the claims under 35 USC 112.

The currently presented amendments to the claims have been amended to address the Examiner's objection. The Examiner's objected to claim term "optical brighteners" has been deleted from the claim. The applicant points out that "optical brighteners" are typically of the stillbene-type optical brighteners which have no antimicrobial efficacy, and are thus considered to be distinguishable over bleach which does exhibit antimicrobial efficacy, but in view of the currently presented amendments to the claims, this issue is believed to be moot.

With respect to the Examiner's remarks concerning the "scope" of patent protection sought by the exclusion of known-art cationic quaternary ammonium compounds known to be effective against gram positive/gram negative, and other known-art antimicrobial constituents, such is believed to be quite readily understood from the applicant's specification, particularly in view of the currently amended claims which now recite "... selected from ...". It is clear therefrom such materials are to be excluded, and that the objection as to the clarity of the claim is now believed to be improper.

The Examiner's attention is also directed to the amended claims presented in this paper and especially amended claim 25, and newly presented claim 26.

*Regarding the rejection of claims 1-15, 18-25 under 35 USC 103(a) in view of US 6221823 to Crisanti:*

The applicants respectfully traverse this rejection in view of the Crisanti reference.

The applicant also directs the attention of the Examiner to newly presented claim 25. The Crisanti reference is wholly silent as to any efficacy against fungi, and as is well known

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in the relevant art efficacy against gram positive and/or gram negative bacteria is irrelevant as a predictor that a composition would have any benefit against fungi.

The applicant directs the Examiner's attention to claims 5 and 6. The applicant points takes the position that that the currently claimed invention is nonobvious over the Crisanti reference and at least claims 5 and 6 should be considered patentable thereover.

In the outstanding *Office Action* the Examiner states that:

Crisanti et al. teach a germicidal acidic hard surface cleaning composition which can comprise acids (col.3, line 5 et seq) including citric, sorbic, acetic, boric, formic, maleic, adipic, lactic and glycolic used singly or in conjunction with one another (col. 3, lines 25-27) such as citric and lactic (see Table 1, Exs 5-7 and 17-18) in combination with a solvent including dipropylene glycol n-propyl ether, construed as a "water miscible glycol ether" (col. 4, line 24) or ethanol (col. 4, line 49) in a mixture (col. 3, line 66). Crisanti et al. teach the inclusion in the

This is not the same as Crisanti's invention, which is succinctly summarized by that patentee at col. 2 of his patent wherein he states:

According to the invention, there are provided aqueous  
hard surface cleaning composition which comprises the  
25 following necessary constituents:

30	Constituent (A)	acid sequestant;
	Constituent (B)	mixture of hydrophobic and hydrophilic solvents;
	Constituent (C)	surfactant and/or hydrotrope,

Clearly, in order to be effective, Crisanti necessarily requires a "Constituent B", a "mixture of hydrophobic and hydrophilic organic solvents." This is repeated by Crisanti later in his patent, e.g., at the passage at the bottom of col. 3 wherein he notes:

Constituent B The constituents comprising Constituent B, as  
namely, a mixture of hydrophobic and hydrophilic solvents,  
are directed to providing the functional benefit of assisting

Thus it is quite evident that the presence of this "dual-solvent system" is an essential feature of the Crisanti compositions. Reference is also made to Crisanti's "Table 1"

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which clearly demonstrates that such a "dual-solvent system" is an essential feature of the Crisanti compositions. The applicant's claimed compositions do not require such a dual-solvent system as is required of Crisanti's compositions. Contrary to Crisanti's requirements, the present applicants have unexpectedly discovered that such a "dual-solvent system" is not required in order to provide excellent antimicrobial efficacy, wholly contrary to Crisanti's teaching.

As is noted in the applicant's working examples in their published US patent application, the present applicants demonstrate compositions which include a single alcohol as an organic solvent, and which provide excellent product performance in remediating undesired bacteria. The formulation of Ex. 1 of applicants' Table 1 provides:

TABLE 1

Component	Ex. 1	Ex. 2
Hostaper 5A8 60 <sup>(1)</sup>	4.58	5.00
Alfonic 810-4.5 <sup>(2)</sup>	1.00	3.00
ethanol	1.00	1.00
dipropylene glycol n-propyl ether	—	—
citric acid solution <sup>(3)</sup>	—	7.00
citric acid <sup>(4)</sup>	3.50	—
fragrance <sup>(5)</sup>	0.20	—
deionized water	q.s.	q.s.

<sup>(1)</sup> sodium C<sub>14-17</sub> secondary sulfonate salt; t

<sup>(2)</sup> C<sub>8-10</sub> alcohol ethoxylate having an ethyl

moles

<sup>(3)</sup> 50% active

<sup>(4)</sup> anhydrous

<sup>(5)</sup> proprietary composition of its supplier

This formula was demonstrated to be highly effective against the gram positive type pathogenic bacteria *Staphylococcus aureus*, and the gram negative type pathogenic bacteria *Salmonella choleraesuis* and *Pseudomonas aeruginosa* as applicants had reported on Table 2A.

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TABLE 2A

<u>AOAC Germicidal Spray Test</u>		
challenge organism:	<u>Contact Time</u>	
	30 seconds (Pass/Fail)	5 minutes (Pass/Fail)
<i>Pseudomonas aeruginosa</i>	0/60 (Pass)	0/10 (Pass)
<i>Staphylococcus aureus</i>	0/10 (Pass)	12/60 (Fail) <sup>A</sup>
<i>Salmonella choleraesuis</i>	0/10 (Pass)	0/10 (Pass)

<sup>A</sup>believed to be an anomalous result, possibly due to inadvertent contamination during testing. Such results indicate excellent disinfecting efficacy of the tested composition.

Quite surprisingly the applicants had also found that such formulations also exhibited efficacy against more difficult to kill microorganisms, namely both certain viruses and fungi. This is seen when the applicant reports:

[0054] The formulation according to Example 1 as described on Table 1 above was evaluated according to the EPA Virucidal Test Method with the test results reported on the following Table 2B, wherein the number of log reduction achieved against the challenge organism is reported at 30 second and 5 minutes contact time.

TABLE 2B

<u>EPA Virucidal Test Method</u>		
challenge organism:	<u>Contact Time</u>	
	30 seconds	5 minutes
Respiratory Syncytial Virus	1.0	1.0
Rotavirus	1.93	2.5
Herpes Simplex Virus Type I	4.5	4.5
Herpes Simplex Virus Type II	3.0	3.17

[0055] Good efficacy against these various viruses was achieved.

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[0069]

TABLE 2F

Tested Tiles	Challenge Organism:	Title Number of Test Tiles	Visual Evaluation	Magnified Evaluation of Test Tile
Test Formulation: Example 1	<i>Aspergillus niger</i>	1	No growth (0%)	No growth
		2	No growth (0%)	No growth
		3	No growth (0%)	No growth
		4	No growth (0%)	No growth
		5	No growth (0%)	No growth
		6	No growth (0%)	No growth
		7	No growth (0%)	No growth
		8	No growth (0%)	No growth
		9	No growth (0%)	No growth
		10	No growth (0%)	No growth

[0070] As is evident from the results reported on Table 2F, the formulation according to Example 1 of Table 1 demonstrated no growth of the fungus *Aspergillus niger* on any of the test tiles after 7 days. In sharp contrast, the untreated control tiles demonstrated significant growth of *Aspergillus niger* on at least 50% of the surface of all tiles after 7 days.

[0071] Such excellent results against both gram positive and gram negative pathogenic bacteria, as well as excellent efficacy against the initial and subsequent growth of a commonly encountered fungus, *Aspergillus niger* in a composition which specifically excludes known cationic quaternary ammonium compounds which are known to be effective against gram positive and/or gram negative type pathogenic bacteria, as well as excluding other known-art antimicrobial constituents or bleach as recited previously is surprising. Further surprising is the discovery that such

As would be appreciated by skilled artisans in the relevant field, such organisms *do not* feature the same mechanisms of eradication as that of bacteria, thus there is no predictability or expectation that efficacy against bacteria would extend to virus or fungi. Indeed it is fair to say that performance against one class of organism is mutually exclusive to its performance in different classes of organisms. The Examiner's attention is directed to amendment claim 25 and newly presented claim 26.

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In view of the foregoing remarks and amended claims, reconsideration of the propriety of the rejection of the claims as being obvious over the prior art Crisanti reference is solicited.

The amendments entered to the claims herein are not intended to disclaim any patentable subject matter, and are to be entered without prejudice or traverse. The applicant expressly reserves their right to reinstate any subject matter canceled in this paper in a later filed application.

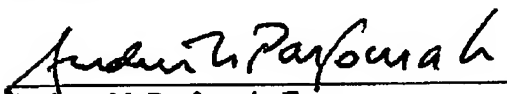
In view of the foregoing amendments to the claims and remarks presented, withdrawal of all grounds of rejection and allowance of the claims to grant is requested. Early issuance of a *Notice of Allowability* is requested.

Should the Examiner believe that telephonic communication will advance the prosecution of the present application they are invited to telephone the undersigned at their convenience.

#### CONDITIONAL AUTHORIZATION FOR FEES

Should any further fee be required by the Commissioner in order to permit the timely entry of this paper, including any extension of time fees, the Commissioner is authorized to charge any such fee to Deposit Account No. 14-1263.

Respectfully Submitted;

  
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